

REMARKS

Claims 1-12 are pending in the application. Claims 8-12 have been added for consideration.

Reconsideration of the rejections and allowance of the pending application in view of the foregoing amendments and following remarks are respectfully requested.

In the Official Action claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Pettitt, U.S. Patent No. 5,163,819 ("Pettitt"), and claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pettitt in view of Kikuchi et al., U.S. Patent No. 5,380,176 ("Kikuchi"). These rejections are respectfully traversed.

It is a disclosed feature of a disclosed embodiment to provide a reciprocating compressor which is configured to smoothly operate a suction valve with weakening adhesive force of oil by reducing a contact area between an end portion surface of a piston and a suction valve, and to reduce noise by a dampening operation.

To achieve the above-noted feature, the reciprocating compressor of the present embodiment, as recited in claim 1, includes, inter alia, includes a piston which reciprocates in a compression space of a cylinder by being engaged with a reciprocating motor and which has a suction path connected to the compression space of the cylinder, a suction valve mounted at an end surface portion of the piston to control gas suction by opening and closing the suction path of the piston, a discharging valve assembly mounted at a discharge side of the cylinder to control gas discharge by opening and closing the

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compression space, and an adhesion preventer positioned at a contact portion between the end portion surface of the piston and the suction valve to minimize adhesion of the piston and the suction valve due to oil by reducing a contact area between the piston and the suction valve.

Applicants respectfully submit that the references relied upon in the rejections under 35U.S.C. 102(b) and 103(a), considered singly or in any proper combination, do not disclose such a combination of features, particularly the suction valve mounted at an end surface portion of the piston to control gas suction by opening and closing the suction path of the piston.

In the Pettitt reference, the suction port 46 is always opened and thus refrigerant gas flows through the suction port 46 continually because of the gap between the suction port 46 and the disk 48, as clearly shown in Fig. 2 thereof. In the Kikuchi reference, the discharge reed valve 249 is installed on the fixed circular end plate 241.

In contrast, in the present embodiment, the suction valve 143 opens and closes during a suction/compression operation, as noted above. In other words the suction valve 143 opens the flow path F by a pressure difference in a suction operation, and closes the flow path F by a pressure difference in a compression operation. Also, in the present embodiment, the suction valve 143 is mounted at an end surface portion of the piston to control gas suction, in addition to the combination of the features of opening and closing the suction path of the piston, as noted above.

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Further, in the present embodiment, since the suction valve 143 is timely opened by reducing the viscosity force of the oil, the compression performance and reliability of the product are improved. Furthermore, chattering noise generated by a contact between the piston 142 and the suction valve can be reduced by dampening the suction valve 143 in the present embodiment. These features are disclosed in neither Pettitt nor Kikuchi.

Moreover, Pettitt is directed to a rotary compressor and Kikuchi is directed to a scroll compressor, while the present embodiment is directed to a reciprocating compressor.

Thus, for all of the above reasons, Pettitt does not anticipate the present invention or render the presently claimed invention unpatentable.

Also, even assuming, arguendo, that the teachings of Pettitt and Kikuchi can be properly combined, the asserted combination of Pettitt and Kikuchi would not result in the invention as recited the claims.

Newly added claims 8-12 also recite, inter alia, the suction valve mounted at an end surface portion of the piston to control gas suction by opening and closing the suction path of the piston. The new claims further recite, inter alia, an adhesion preventing groove. No new matter is introduced by the claim addition. In this regard, the Examiner's attention is directed to, inter alia, Fig. 6 of Applicants' application.

Independent claims 1, 8 and 11 are now in condition for allowance in view of the amendments and the above-noted remarks, and claims 2-7, 9, 10 and 12 dependent

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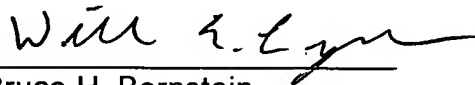
thereon respectively are also submitted to be in condition for allowance in view of their dependence from the allowable base claims and also at least based upon their recitations of additional features of the present invention. It is respectfully requested, therefore, that the rejections under 35 U.S.C. 102(b), 35 U.S.C. 103(a) be withdrawn and that an early indication of the allowance thereof be given.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based on prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to be attached thereto.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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